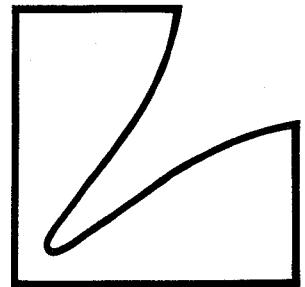


SERVICE MANUAL



Stereo Integrated Amplifier

L-405



Contents

Specifications	3
Parts Locations and Disassembly Instructions	4 to 7
Adjustment Procedures	8
Adjustment Locations	8
Block Diagram	9
Parts Layout on P.C. Board	9 to 12
Wiring Diagram	13 to 14
Electrical Parts List	15 to 18
Schematic Diagram	19 to 20
Cabinet Exploded View	21 to 22
Cabinet Assembly Parts List	23 to 24
Packing Method View	25
Packing Assembly Parts List	25
Semi-Conductor Lead Identifications	26

Specifications

Power Output (8 ohms, 1 kHz)	70W x 2
Total Harmonic Distortion	0.03% (20 Hz ~ 20 kHz, at 55W into 8 Ω)
Input Sensitivity (1 kHz):	
Phono (MM)	2mV ±0.2mV
Phono (MC)	0.4mV ±0.04mV
CD	180mV ±15mV
Tuner	180mV ±15mV
AV	180mV ±15mV
Tape-1/2	180mV ±15mV
Input Impedance (1 kHz):	
Phono (MM)	55KΩ ±20%
Phono (MC)	120Ω ±20%
CD	40KΩ ±20%
Tuner	40KΩ ±20%
AV	40KΩ ±20%
Tape-1/2	40KΩ ±20%
Frequency Response (at 1mW Output):	
Phono	+ 13.09 dB ±1.0 dB at 100 Hz -13.73 dB ±1.0 dB at 10 kHz
CD (1W)	±2 dB at 10 kHz ±3 dB at 8 kHz
Subsonic Filter (Vol: max., CD)	-3 dB ±1 dB at 20 Hz
High Cut Filter (Vol: max.)	-4 dB ±2 dB at 10 kHz
Tone Control:	
Bass	±8.0 dB ±1 dB at 100 Hz
Treble	±8.0 dB ±1 dB at 10 kHz
Loudness Control (Volume at -30 dB position)	+ 8.0 dB ±1.0 dB at 100 Hz
S/N (Input Shorted):	
Phono MM (IHF-A Weighted)	80 dB
Phono MC (IHF-A Weighted)	65 dB
DC (IHF-A Weighted)	107 dB
AV (IHF-A Weighted)	107 dB
Tuner (IHF-A Weighted)	107 dB
Tape-1/2 (IHF-A Weighted)	107 dB
Dimensions	453(W) x 317(D) x 130(H) mm
Weight:	
Net	7.6 kgs
Gross	9.0 kgs
Power Consumption	220V/50 Hz (SK, EK Model) 240V/50 Hz (SG Model)
Semi-Conductors	1 IC, 28 Transistors, 2 FET's, 5 Zener Diodes, 19 Diodes

Parts Locations and Disassembly Instructions

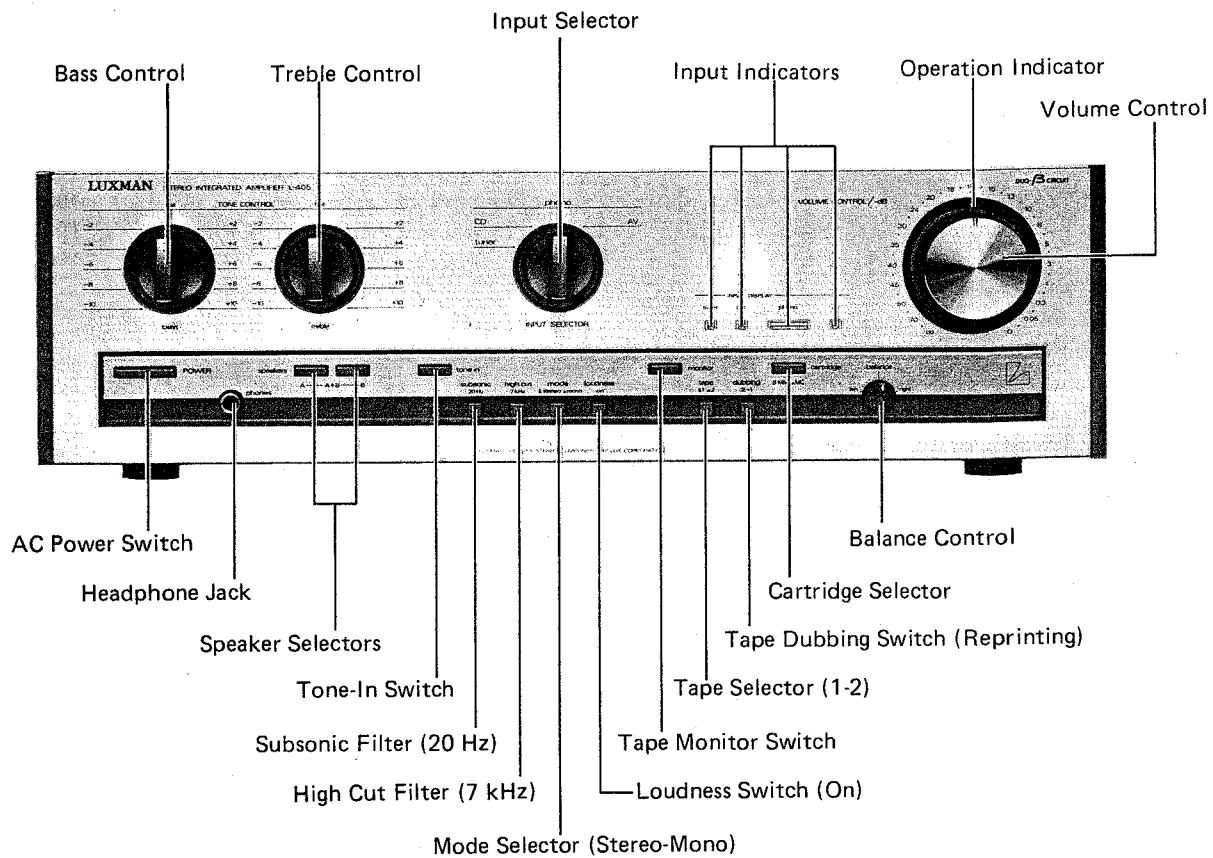


Figure 1

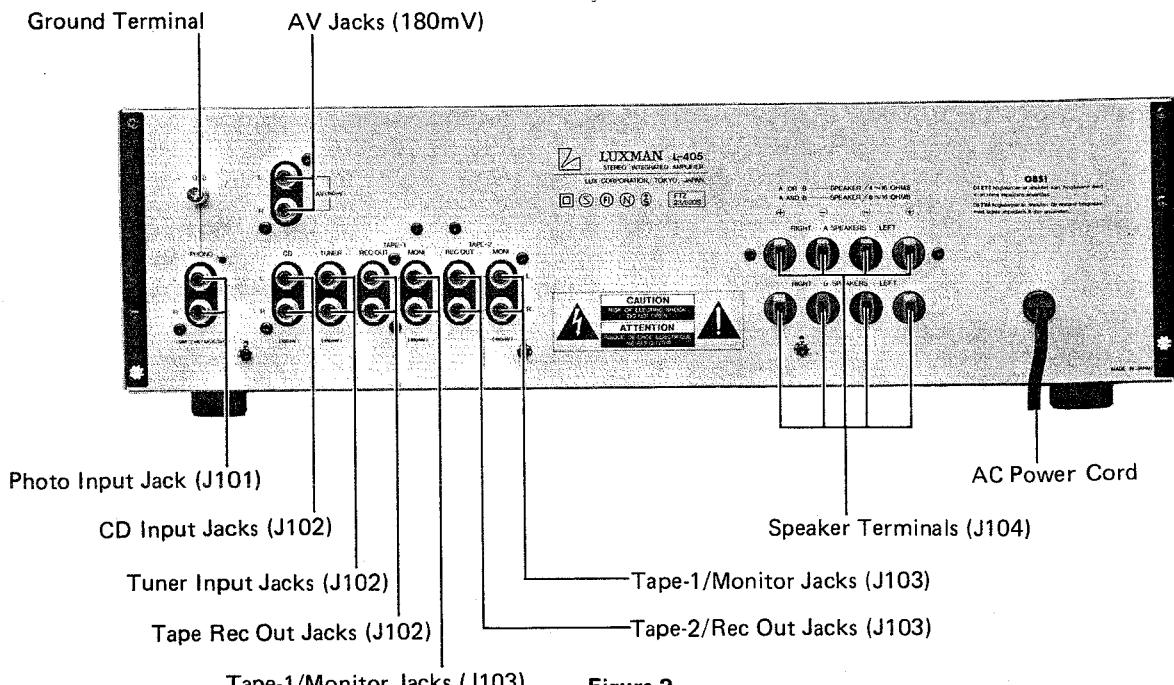


Figure 2

1. Top Cover Removal

- (1) Remove five screws marked "○" shown in Figure 3 and two screws marked "○" shown in Figure 4.
- (2) Remove top cover by lifting it up to the direction indicated by the arrow shown in Figure 3.

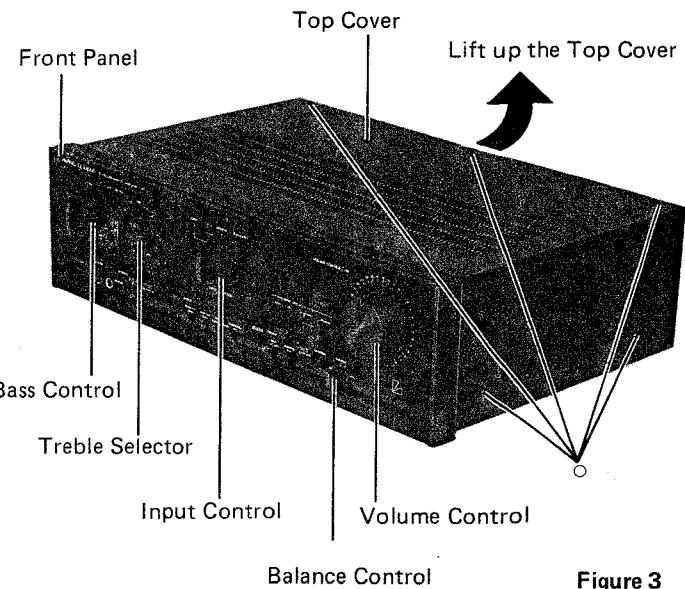


Figure 3

2. Front Panel Removal

- (1) Remove five knobs (Bass Control, Treble Control, Input Selector, Balance Control, and Volume Control) shown in Figure 3.
- (2) Remove three screws marked "※" shown in Figure 4 and three screws marked "※" shown in Figure 5, and the front panel will be removed.

3. Bottom Cover Removal

- (1) Remove five screws marked "☆" as shown in Figure 4, and the bottom cover will be removed.

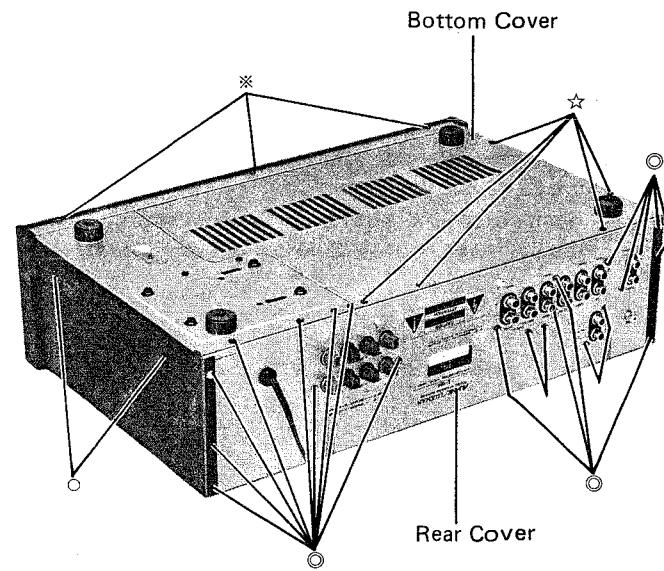


Figure 4

4. Front Chassis Removal

- (1) Remove twelve push buttons (A) shown in Figure 6, one screw marked "□" shown in Figure 5, and eight screws marked "●" shown in Figure 6.
- (2) Proceed the removal works from 4-1 to 4-6 on page 6 and the front chassis will be removed.

4-1. Tone Control P.C. Board Removal

(1) Remove washer (A) and nut (A) shown in Figure 6.

Disconnect all connectors from the P.C. Board, and the Tone Control P.C. Board will be removed.

4-2. Function Switch P.C. Board Removal

(1) Remove washer (B) and nut (B) shown in Figure 6.

Remove all lead wires from the P.C. Board, and the Function Switch P.C. Board will be removed.

4-3. Volume Control P.C. Board Removal

(1) Remove washer (C) and nut (C) shown in Figure 6.

Remove all lead wires from the P.C. Board, and the Volume Control P.C. Board will be removed.

4-4. Power Switch Removal

(1) Remove two screws marked "○" shown in Figure 6.

Remove all lead wires from the switch, the power switch will be removed.

4-5. Head Phone Jack P.C. Board Removal

(1) Remove jack stopper shown in Figure 6.

Disconnect all connectors from the P.C. Board, and the Head Phone Jack P.C. Board will be removed.

4-6. Balance Control P.C. Board Removal

(1) Remove washer (D) and nut (D) shown in Figure 6.

Remove all lead wires from the P.C. Board, and the Balance Control P.C. Board will be removed.

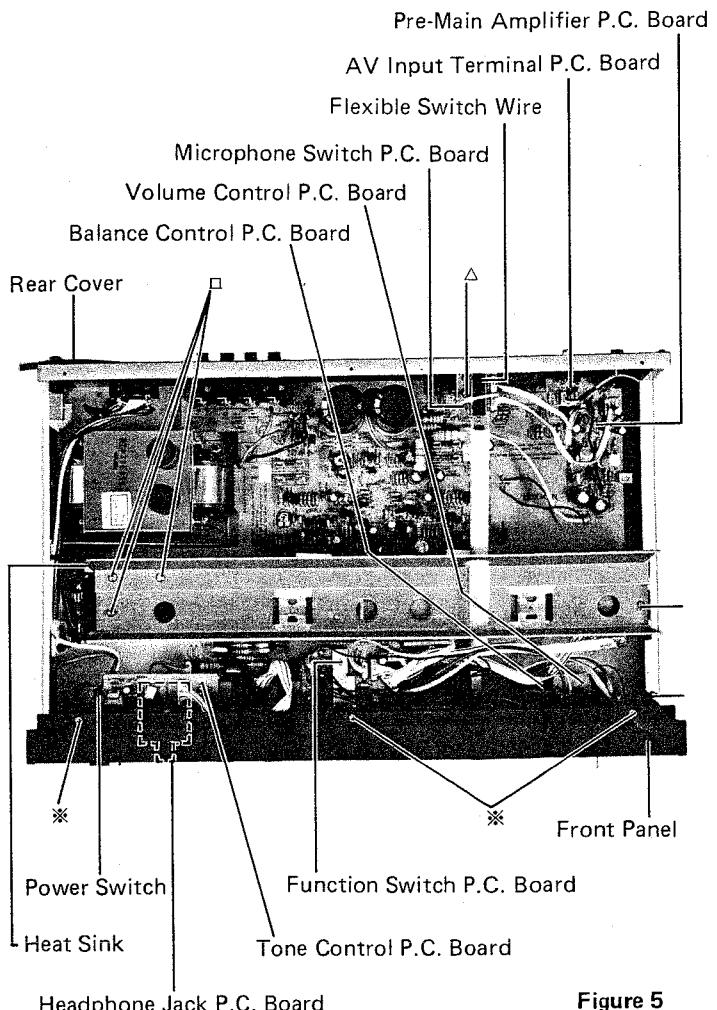


Figure 5

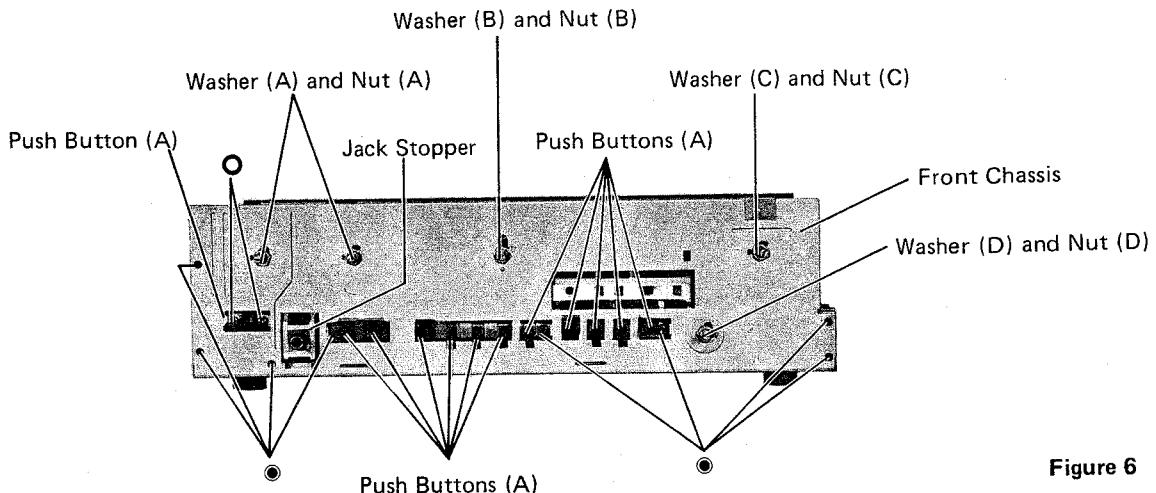


Figure 6

5. Microphone Switch P.C. Board Removal

- (1) Remove one screw marked “△” shown in Figure 5 and two screws marked “▲” shown in Figure 4.
- (2) Disconnect all connectors and remove flexible switch wire from the P.C. Board, and the Microphone Switch P.C. Board will be removed.

6. AV Input Terminal P.C. Board Removal

- (1) Remove two screws marked “○” shown in Figure 4.
- Disconnect all connectors from the P.C. Board, and the AV Input Terminal P.C. Board will be removed.

7. Rear Cover Removal

- (1) Remove eighteen screws marked “◎” shown in Figure 4.
- (2) Unsolder (A) shown in Figure 7, and the rear cover will be removed.

8. Pre-Main Amplifier P.C. Board Removal

- (1) After removal of Microphone Switch P.C. Board and rear cover, remove four screws marked “□” shown in Figure 5 and two screws marked “凸” shown in Figure 7.
- (2) Unsolder (B) shown in Figure 7 and remove all lead wires from the P.C. Board, and the Pre Main Amplifier P.C. Board will be removed.

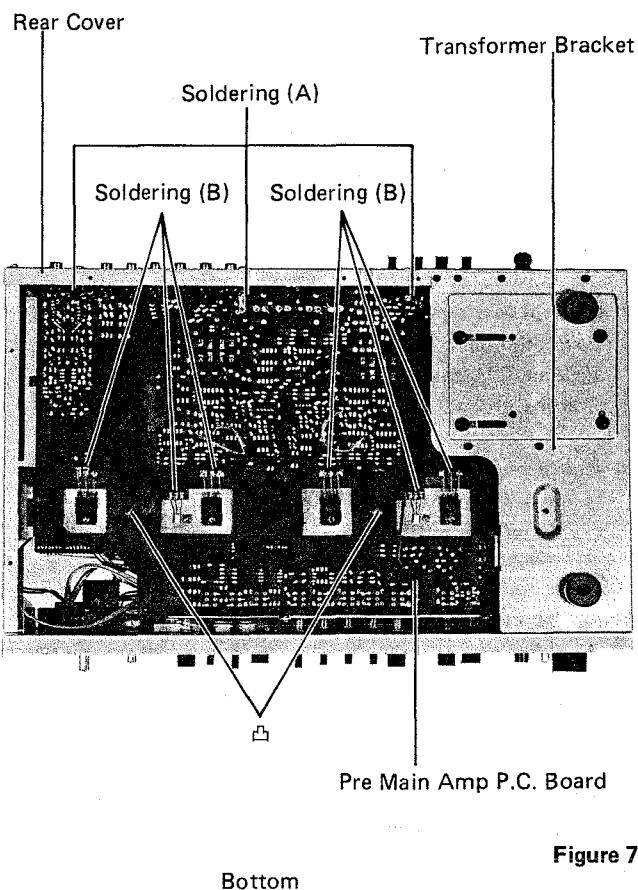


Figure 7

Adjustment Procedures

1. Connection

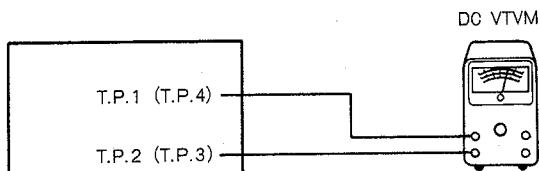


Figure 8

2. Control Setting

Power Switch	ON	Bass Control	Center
Volume Control	MIN	Balance Control	Center
Treble Control	Center	Others	OFF

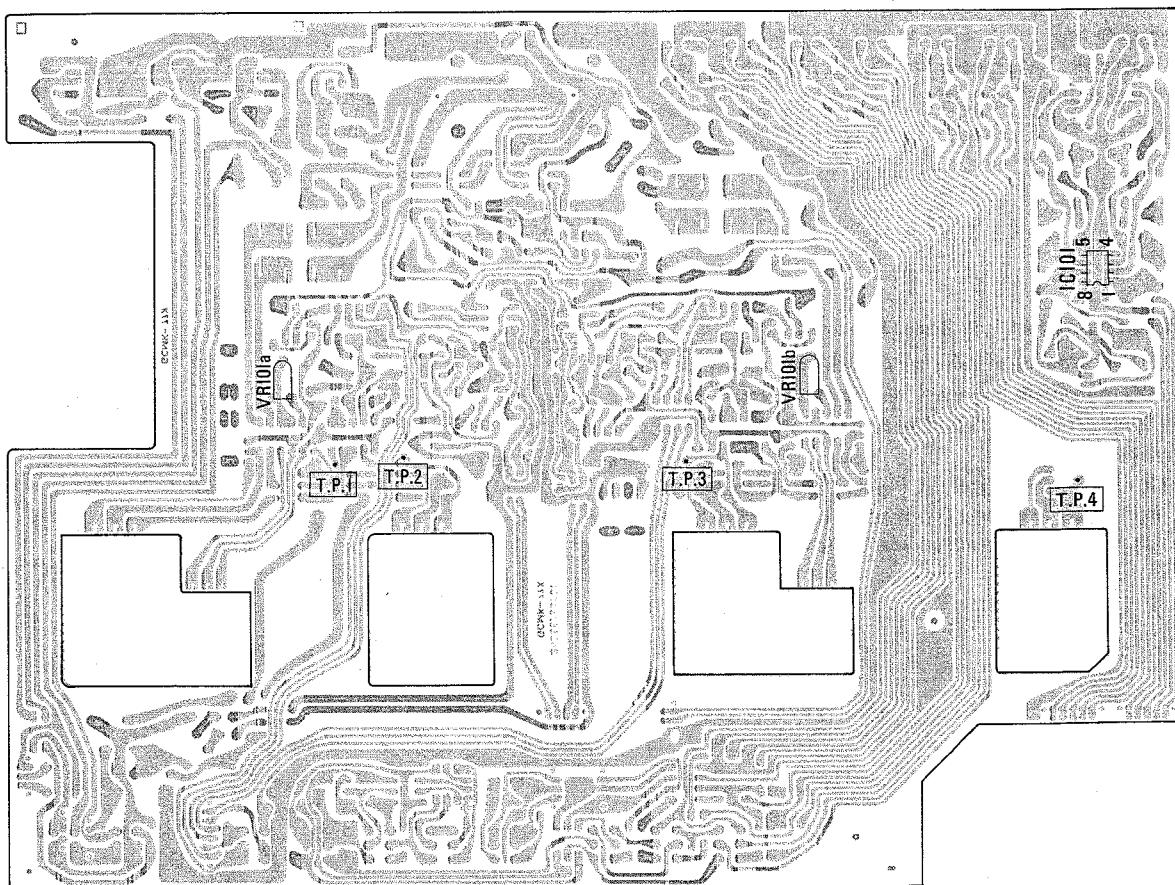
3. Adjustments

(1) Idling Adjustment

Adjust VR101A (VR101B) so that voltage between T.P.1 (T.P.3) and T.P.2 (T.P.4) reaches 15 ± 5mV.

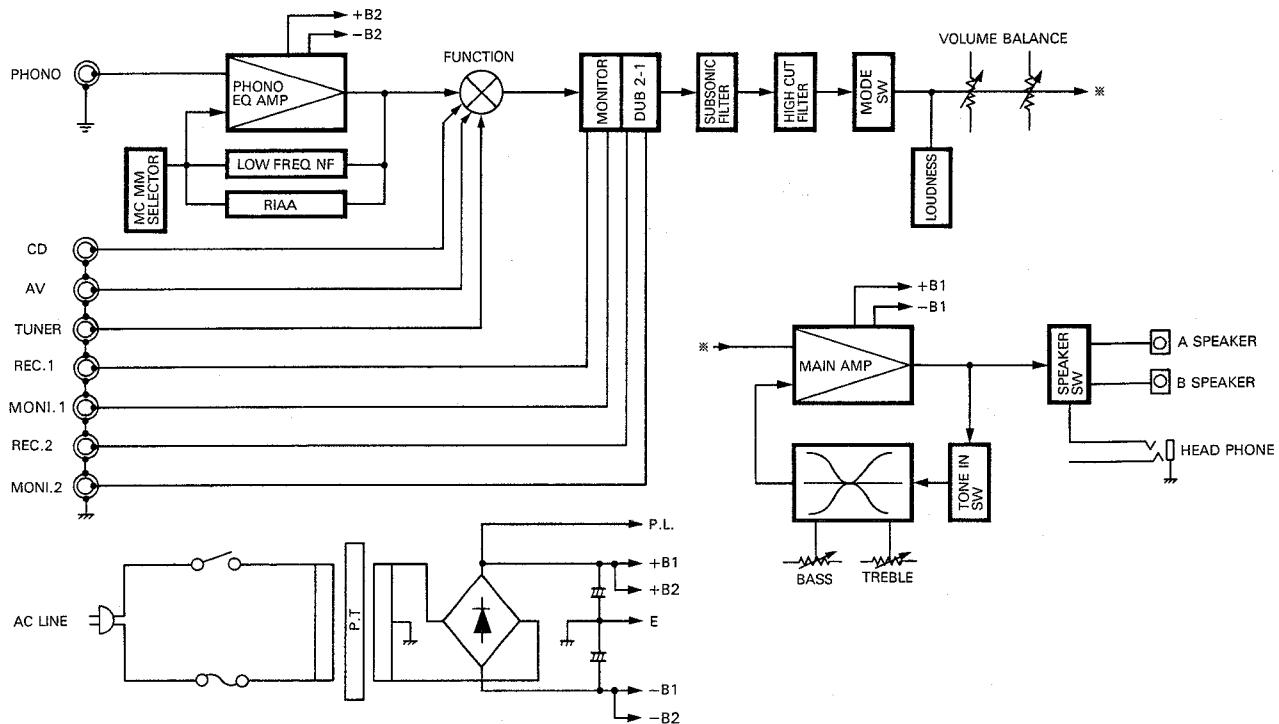
Note: Make the above adjustment about three minutes after power is ON.

Adjustment Locations



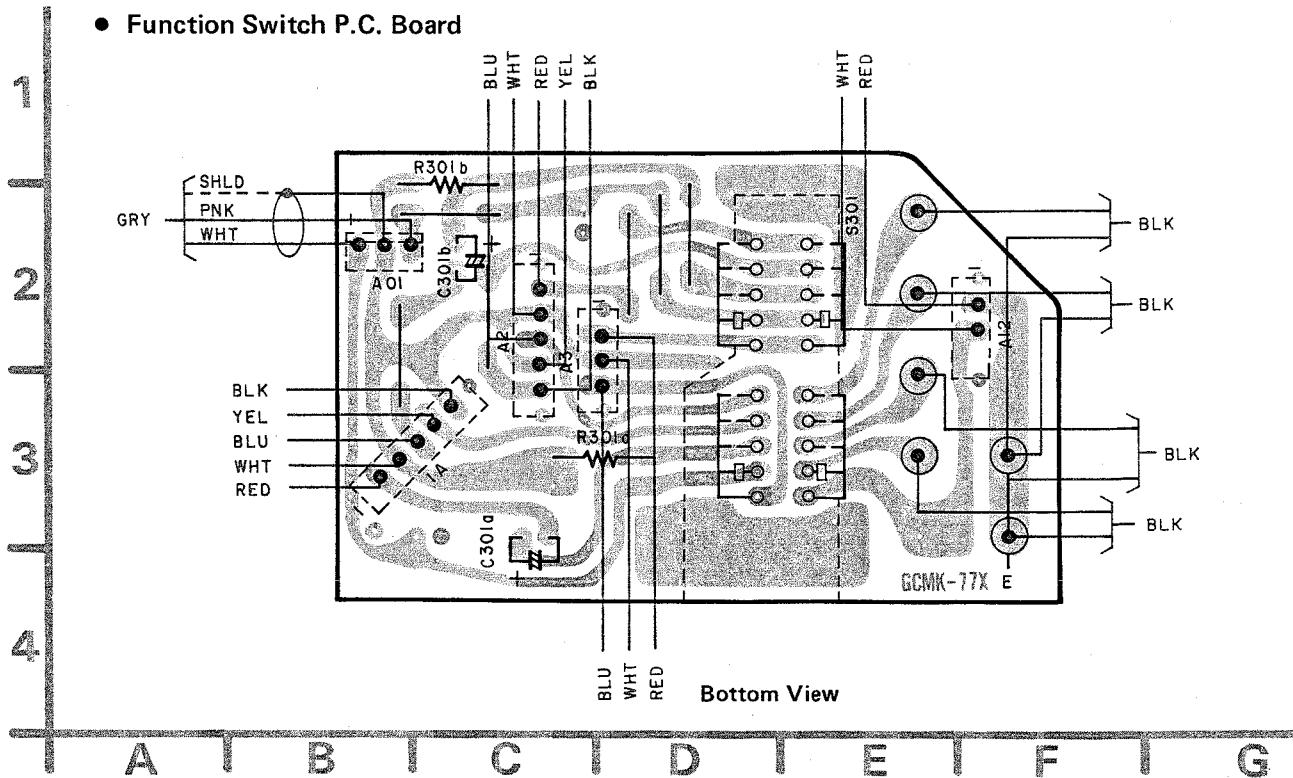
● Pre Main Amplifier P.C. Board

Block Diagram

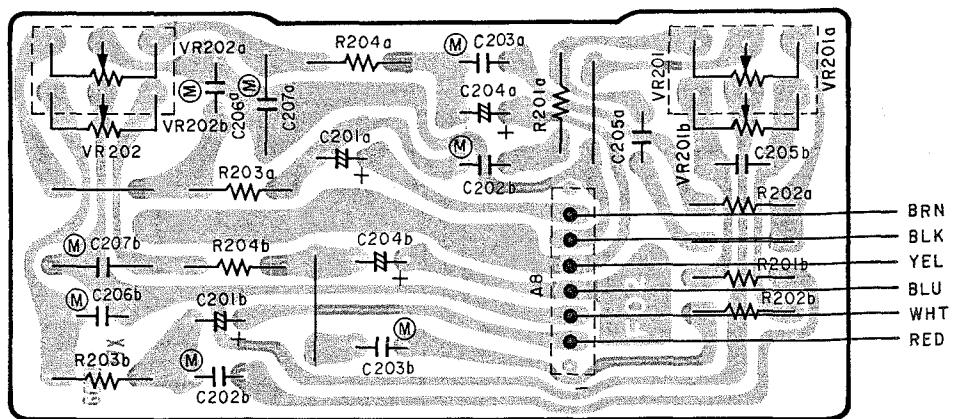


Parts Layout on P.C. Boards

- Function Switch P.C. Board

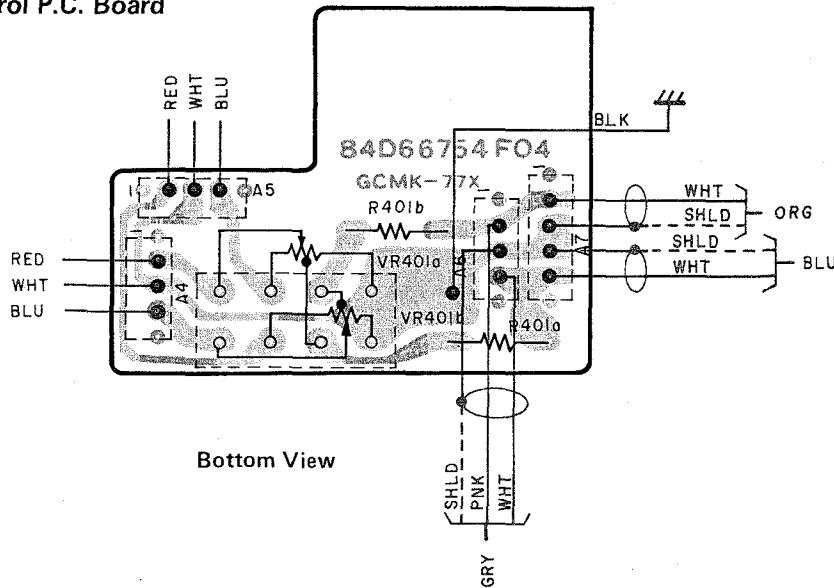


- Tone Control P.C. Board



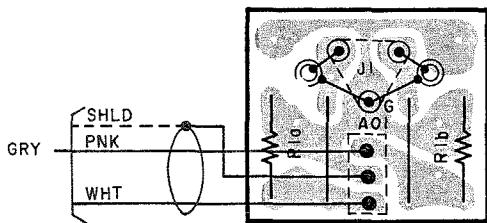
Bottom View

- Volume Control P.C. Board

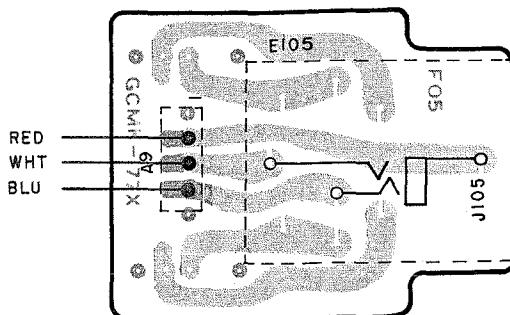


Bottom View

- AV Input Terminal P.C. Board

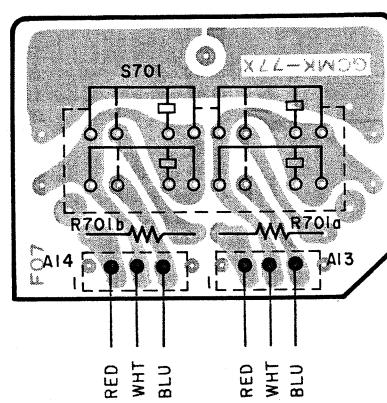


- Headphone Jack P.C. Board



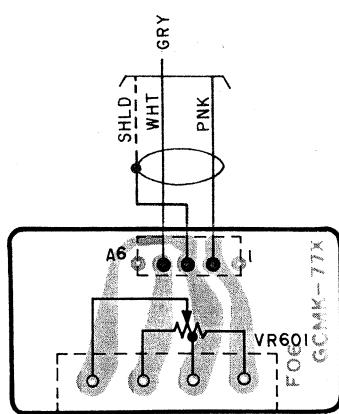
- 10 -

● Microphone Switch P.C. Board



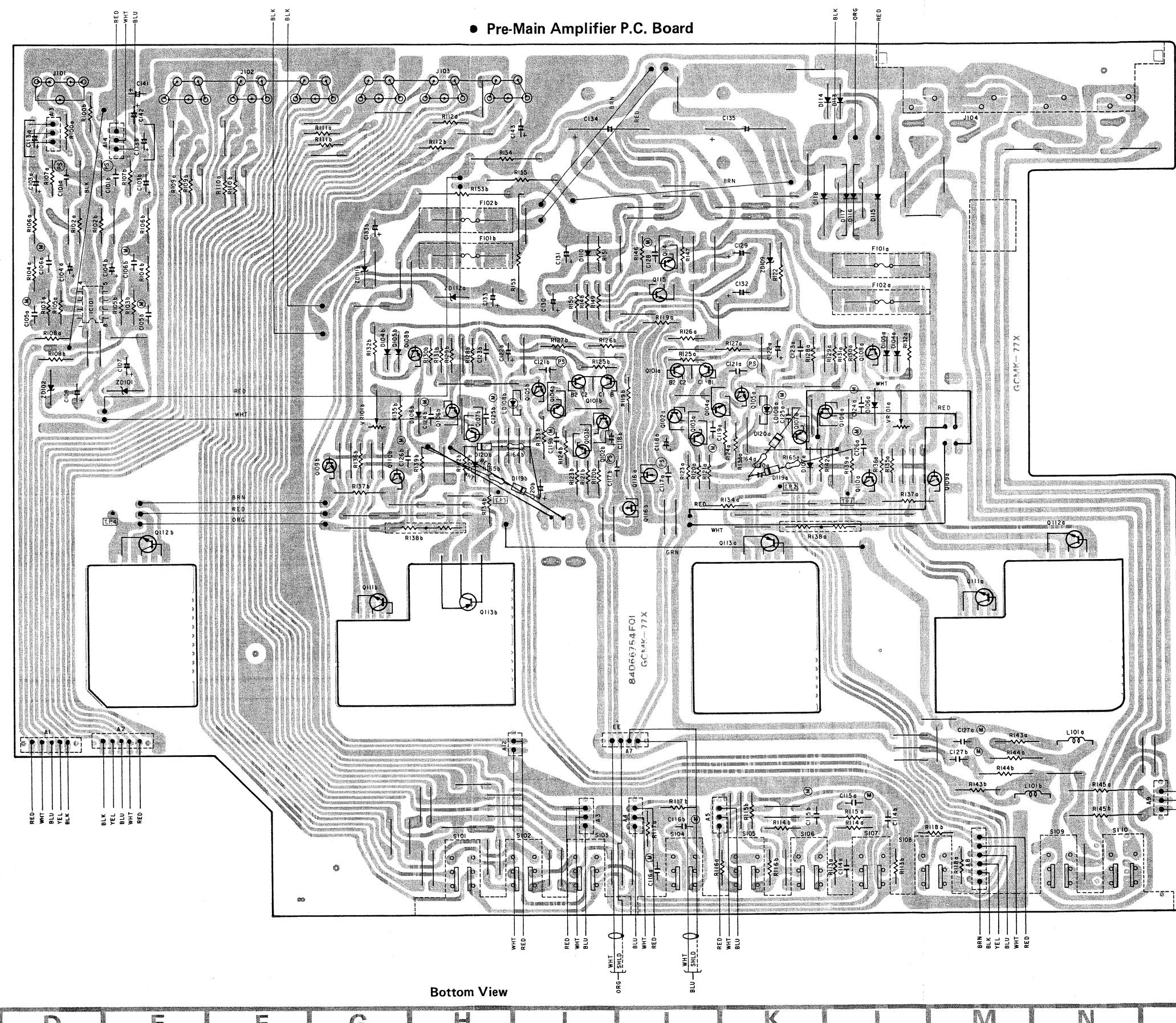
Bottom View

● Balance Control P.C. Board



Bottom View

● Pre-Main Amplifier P.C. Board

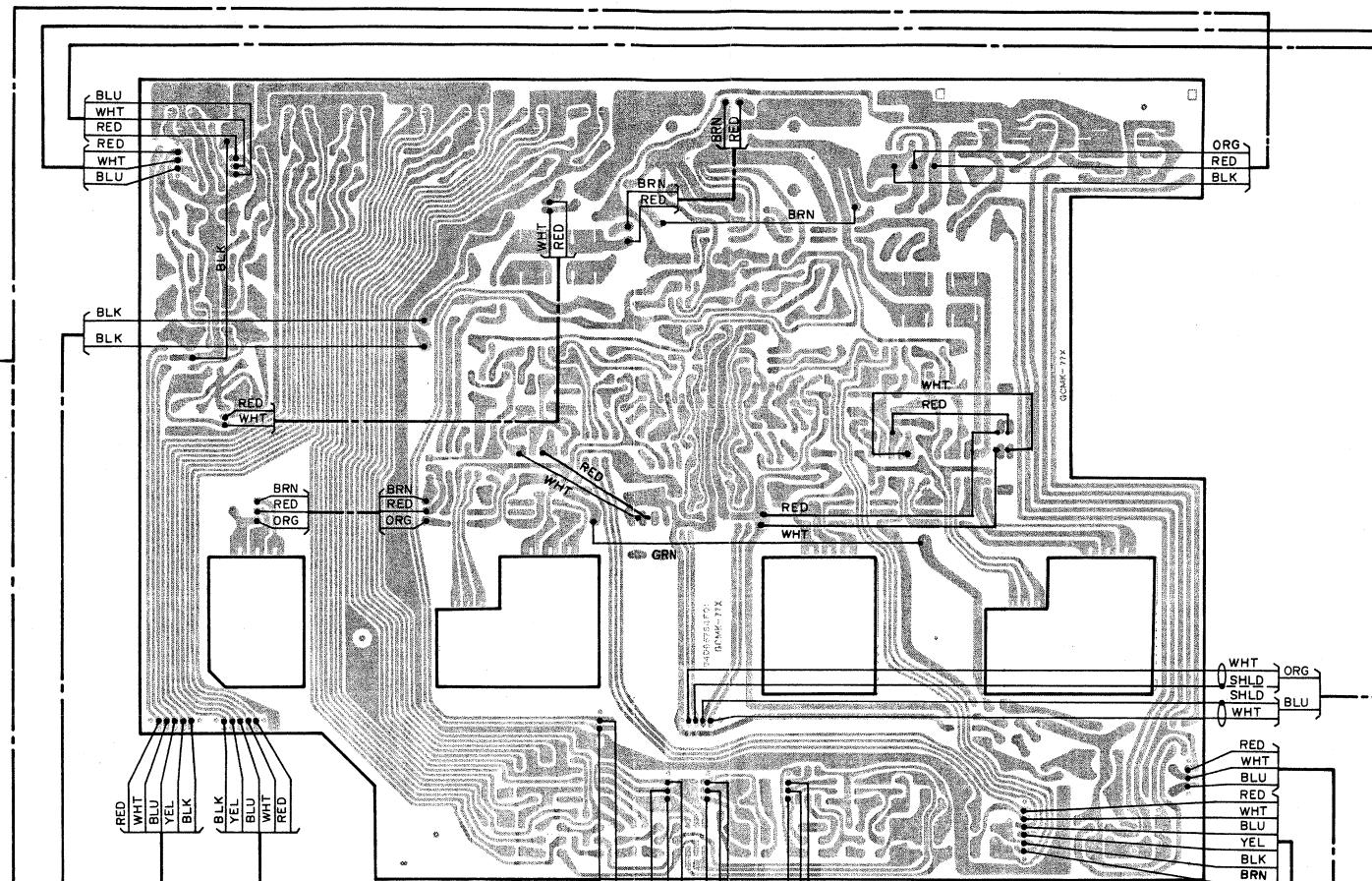
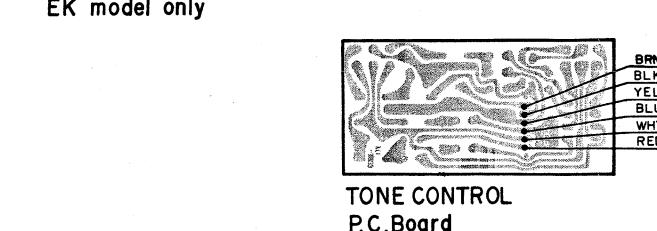
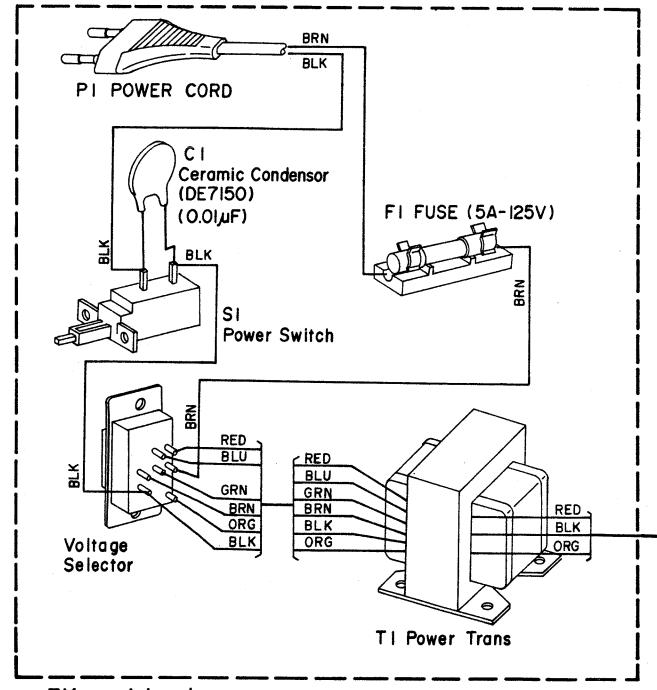
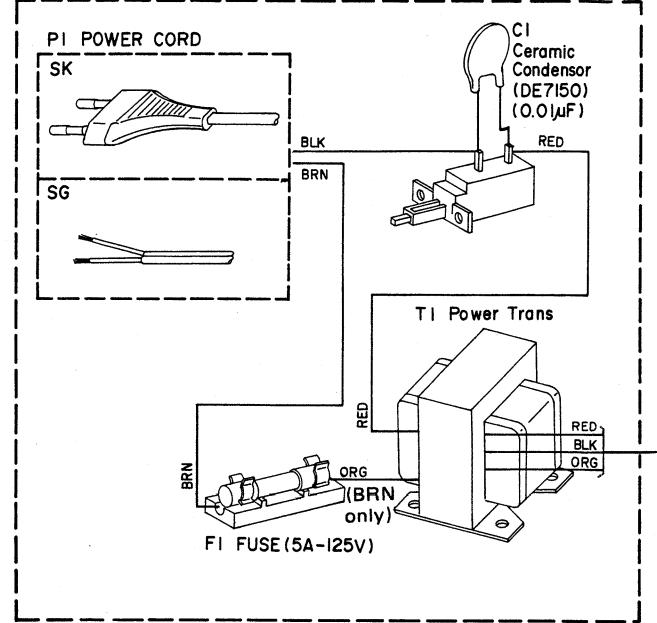


Bottom View

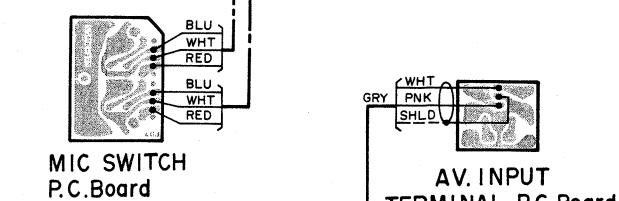
Q101A	Q101B
E +0.65V	C -43.3V
B1 +0.1V	C2 -42.4V
B2 +0.1V	
Q102A	Q102B
E -43.9V	C -42.4V
B -43.3V	
Q103A	Q103B
E -43.9V	C -43.3V
B -43.3V	
Q104A	Q104B
E -44V	C -43.5V
B -43.3V	
Q105A	Q105B
E -43.5V	C -1.2V
B -42.8V	
Q108A	Q108B
E +43.4V	C +1.2V
B +42.8V	
Q109A	Q109B
E +0.6V	C +4.5V
B +1.2V	
Q110A	Q110B
E -0.6V	C -4.5V
B -1.2V	
Q111A	Q111B
E -1.2V	C +1.2V
B -0.6V	
Q112A	Q112B
E +0.1V	C -4.5V
B +0.6V	
Q113A	Q113B
E -0.0V	C -45V
B -0.6V	
Q114	
E +44.6V	C +45V
B +45V	
Q115	
E +0V	C +44.4V
B -3.7V	
Q116A	Q116B
D -0.0V	G +4.4V
S +0V	
I C101	
1 (-0.2V)	2 (0V)
2 (0V)	3 (0V)
3 (0V)	4 (+1.9V)
4 (+1.9V)	5 (0V)
5 (0V)	6 (0V)
6 (0V)	7 (-0.2V)
7 (-0.2V)	8 (+1.9V)

Wiring Diagram

SK/SG model only



BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
VIO.	Violet
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow



ORG
RED
BLK

WHT

RED

BLU

WHT

Electrical Parts List

Resistors (All resistors are carbon film, $\frac{1}{4}W$, $\pm 5\%$ unless otherwise noted.)
 uF = microfarads, pF = picofarads

Symbol No.	Part No.	Description
Pre-, Main Amp P.C. Board		
IC		
IC101	51T52153F01	NJM2043D-D
Transistors		
Q101a	48T53430F01	2SA979
Q101b	48T53430F01	2SA979
Q102a	48S43525F02	2SC1815
Q102b	48S43525F02	2SC1815
Q103a	48S43525F02	2SC1815
Q103b	48S43525F02	2SC1815
Q104a	48S43525F02	2SC1815
Q104b	48S43525F02	2SC1815
Q105a	48T56658F01	2SC1904
Q105b	48T56658F01	2SC1904
Q106a	48S43525F02	2SC1815
Q106b	48S43525F02	2SC1815
Q107a	48T51118F01	2SA1015
Q107b	48T51118F01	2SA1015
Q108a	48T56657F01	2SA899
Q108b	48T56657F01	2SA899
Q109a	48T56660F03	2SC2824
Q109b	48T56660F03	2SC2824
Q110a	48T56659F03	2SA1184
Q110b	48T56659F03	2SA1184
Q114 or	48T47682F02 48S47682F03	2SC1845-FA 2SC1845-EA
Q115	48S43525F02	2SC1815
Q116a or or or or	48S47729F03 48S47729F01 48T52122F01 48T52122F02 48S47729F02	FET, 2SK117-Y FET, 2SK117-GR FET, 2SK301-R FET, 2SK301-Q FET, 2SK117-BL
Q116b or or or or	48S47729F03 48S47729F01 48T52122F01 48T52122F02 48S47729F02	FET, 2SK117-Y FET, 2SK117-GR FET, 2SK301-R FET, 2SK301-Q FET, 2SK117-BL

Symbol No.	Part No.	Description
Diodes		
D104a	48T51117F01	1S1553
D104b	48T51117F01	1S1553
D105a	48T51117F01	1S1553
D105b	48T51117F01	1S1553
D106a	48T51117F01	1S1553
D106b	48T51117F01	1S1553
D107a	48T51117F01	1S1553
D107b	48T51117F01	1S1553
D110	48T51117F01	1S1553
D113	48T44992F01	DS135D
D114	48T44992F01	DS135D
D115	48T51115F02	S3V20 (4004)
D116	48T51115F02	S3V20 (4004)
D117	48T51115F02	S3V20 (4004)
D118	48T51115F02	S3V20 (4004)
D119a	48T51117F01	1S1553
D119b	48T51117F01	1S1553
D120a	48T51117F01	1S1553
D120b	48T51117F01	1S1553
ZD101	48T52741F54	Zener, HZ18-3L
ZD102	48T52741F54	Zener, HZ18-3L
ZD109	48T52741F62	Zener, HZ24-2L
ZD112a	48T52739F87	Zener, HZ20-3
ZD112b	48T52739F87	Zener, HZ20-3
LD108a	48T40955T01	LED, TLR124 (Red)
LD108b	48T40955T01	LED, TLR124 (Red)
Coils/Fuses		
L101a	24T67516F01	Choke, $1.1\mu H$
L101b	24T67516F01	Choke, $1.1\mu H$
F101a	65T42077U19	Fuse, SEMKO T2.0A
F101b	65T42077U19	Fuse, SEMKO T2.0A
F102a	65T42077U19	Fuse, SEMKO T2.0A
F102b	65T42077U19	Fuse, SEMKO T2.0A
Jacks		
J101	09T57203F01	2P (Phono)
J102	09T57203F02	6P (CD, Tuner, REC1)
J103	09T57203F02	6P (REC2, Monitor 1, 2)
J104	09T51101F01	Speaker Terminal (A, B)

Symbol No.	Part No.	Description	
Switches			
S101		Push, SUF R43 (Dubbing)	
S102		Push, SUF R43 (Tape)	
S103		Push, SUF R43 (Monitor)	
S104		Push, SUN73 (Loudestness)	
S105		Push, SUN73 (Mode)	
S106	40T67110F01	Push, SUN73 (High Cut)	
S107		Push, SUN73 (Subsonic)	
S108		Push, SUN73 (Tone In)	
S109		Push, SUN73 (B Speaker)	
S110		Push, SUN73 (A Speaker)	
Capacitors			
C101a	08C42195G20	Polystyrol	47 pF
C101b	08C42195G20	Polystyrol	47 pF
C103a	23S40657F13	Electrolytic	47 uF/16V
C103b	23S40657F13	Electrolytic	47 uF/16V
C104a	23T44501P27	Electrolytic	4.7 uF/25V
C104b	23T44501P27	Electrolytic	4.7 uF/25V
C105a	08S40656F22	Mylar	0.056 uF
C105b	08S40656F22	Mylar	0.056 uF
C106a	08S40656F15	Mylar	0.015 uF
C106b	08S40656F15	Mylar	0.015 uF
C107	23S41198U42	Electrolytic	220 uF/25V
C108	23S41198U42	Electrolytic	220 uF/25V
C113a	23T43197F17	Electrolytic	4.7 uF/50V
C113b	23T43197F17	Electrolytic	4.7 uF/50V
C114a	23T57007F02	Electrolytic	0.22 uF/50V
C114b	23T57007F02	Electrolytic	0.22 uF/50V
C115a	08S41442F10	Mylar	5600 pF
C115b	08S41442F10	Mylar	5600 pF
C116a	08S41442F21	Mylar	0.047 uF
C116b	08S41442F21	Mylar	0.047 uF
C117a	08C42195G20	Polystyrol	47 pF
C117b	08C42195G20	Polystyrol	47 pF
C118a	23T44501P08	Electrolytic	3.3 uF/25V
C118b	23T44501P08	Electrolytic	3.3 uF/25V
C119a	08S41442F06	Mylar	2700 pF
C119b	08S41442F06	Mylar	2700 pF
C120a	23S41198U44	Electrolytic	220 uF/50V
C120b	23S41198U44	Electrolytic	220 uF/50V

Symbol No.	Part No.	Description	
C121a	08C42195G15	Polystyrol	33 pF/125V
C121b	08C42195G15	Polystyrol	22 pF/125V
C122a	23S40657F08	Electrolytic	100 uF/10V
C122b	23S40657F08	Electrolytic	100 uF/10V
C123a	08T55119F03	Mica	3 pF
C123b	08T55119F03	Mica	3 pF
C124a	08S41442F05	Mylar	2200 pF
C124b	08S41442F05	Mylar	2200 pF
C125a	08S41442F05	Mylar	2200 pF
C125b	08S41442F05	Mylar	2200 pF
C126a	08S40656F01	Mylar	1000 pF
C126b	08S40656F01	Mylar	1000 pF
C127a	08S41442F21	Mylar	0.047 uF
C127b	08S41442F21	Mylar	0.047 uF
C128	08S40656F01	Mylar	1000 pF
C129	23S41198U38	Electrolytic	100 uF/63V
C130	23S40657F35	Electrolytic	47 uF/50V
C131	23S40657F43	Electrolytic	33 uF/63V
C132	23S40657F20	Electrolytic	47 uF/25V
C133a	23S40657F26	Electrolytic	47 uF/35V
C133b	23S40657F26	Electrolytic	47 uF/35V
C134	23T56654F01	Electrolytic	10000 uF/50V
C135	23T56654F01	Electrolytic	10000 uF/50V
C141	23S40657F10	Electrolytic	10 uF/16V
C142	23S40657F10	Electrolytic	10 uF/16V
C143	23S40657F10	Electrolytic	10 uF/16V
Resistors			
R122	06T55177F75	Metal Film	2.7K ohm 1W
R132a	06T55175F47	Metal Film	180 ohm 1/2W
R132b	06T55175F47	Metal Film	180 ohm 1/2W
R133a	06T55175F17	Metal Film	10 ohm 1/2W
R133b	06T55175F17	Metal Film	10 ohm 1/2W
R134a	06T55175F41	Metal Film	100 ohm 1/2W
R134b	06T55175F41	Metal Film	100 ohm 1/2W
R137a	06T55177F55	Metal Film	390 ohm 1W
R137b	06T55177F55	Metal Film	390 ohm 1W
R138a	06T68480F01	Cement	0.33 ohm 5W x 2
R138b	06T68480F01	Cement	0.33 ohm 5W x 2

Symbol No.	Part No.	Description	
R143a	06T55175F17	Metal Film	10 ohm 1/2W
R143b	06T55175F17	Metal Film	10 ohm 1/2W
R144a	06T55177F17	Metal Film	10 ohm 1W
R144b	06T55177F17	Metal Film	10 ohm 1W
R145a	06T55179F57	Metal Film	470 ohm 2W
R145b	06T55179F57	Metal Film	470 ohm 2W
R153a	06T56661F54	Metal Film	360 ohm 3W
R153b	06T56661F54	Metal Film	360 ohm 3W
R154	06T55179F75	Metal Film	2.7K ohm 2W
R155	06T55179F75	Metal Film	2.7K ohm 2W
VR101a	18C42061J28	Variable	470 ohm
VR101b	18C42061J28	Variable	470 ohm
Tone Control P.C. Board			
Capacitors			
C201a	23S40657F16	Electrolytic	4.7 uF/25V
C201b	23S40657F16	Electrolytic	4.7 uF/25V
C202a	08S40656F11	Mylar	6800 pF
C202b	08S40656F11	Mylar	6800 pF
C203a	08S40656F20	Mylar	0.039 uF
C203b	08S40656F20	Mylar	0.039 uF
C204a	23S40657F11	Electrolytic	22 uF/16V
C204b	23S40657F11	Electrolytic	22 uF/16V
C205a	21S40655F31	Ceramic	560 pF
C205b	21S40655F31	Ceramic	560 pF
C206a	08S40656F22	Mylar	0.056 uF
C206b	08S40656F22	Mylar	0.056 uF
C207a	08S44503P30	Mylar	0.27 uF
C207b	08S44503P30	Mylar	0.27 uF
Volumes			
VR201	18T56663F01	Rotary	50K ohm x 2
VR202	18T56663F01	Rotary	50K ohm x 2
Function Switch P.C. Board			
Switch			
S301	40T56664F01	Rotary, SRZ	

Symbol No.	Part No.	Description	
Capacitors			
C301a	23T44501P06	Electrolytic	2.2 uF/35V
C301b	23T44501P06	Electrolytic	2.2 uF/35V
Volume Control P.C. Board			
Volume			
VR401	18T68333F01	Rotary	100K ohm x 2
Micro Switch P.C. Board			
Switch			
S701	40T57372F01	Slide, SSR2435 (MC/MM)	
AV Input Terminal P.C. Board			
Jack			
J1	09T57203F01	Phone, 2P	
Miscellaneous			
C1	08T57437F09	Capacitor, Ceramic 0.01uF	
F1	65T42077U18	Fuse, SEMKO T1.6A	
J105	09T56010F01	Headphone Jack, M1669	
P1	▲ 28T68132F01 ■ 28T43812P02 ● 28T43812P02	AC Cord (SAA) Plug, AC Cord Plug, AC Cord	
PL301	65T66752F02	Pilot Lamp, 24V-50mA (ORG)	
PL302	65T66752F02	Pilot Lamp, 24V-50mA (ORG)	
PL303	65T66752F03	Pilot Lamp, 24V-50mA (GRN)	
PL304	65T66752F02	Pilot Lamp, 24V-50mA (ORG)	
PL305	65T66752F01	Pilot Lamp, 24V-50mA	
Q111a	48T47682F02 or 48T47682F03	Transistor, 2SC1845-FA Transistor, 2SC1845-EA	
Q111b	48T47682F02	Transistor, 2SC1845-FA	
Q112a	48T47682F03 or 48T57132F03	Transistor, 2SC1845-EA Transistor, 2SC3181-O, R	
Q112b	48T57132F03	Transistor, 2SC3181-O, R	

▲ : For SG model only, ■ : For SK model only, ● : For EK model only, Others: Common

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
Q113a	48T57131F03	2SA1264-O, R			
Q113b	48T57131F03	2SA1264-O, R			
S1	40T45561F02	Switch, Power (SDLIP)			
T1	▲ 25T72409F01 ■ 25T69175F01 ● 25T71160F01	Power Transformer Power Transformer Power Transformer			
VR601	18T56666F01	Rotary Volume (Balance)			
J2	● 09T51831F01	Socket Switch (M-1615)			
P2	● 09T51830F01	Plug Switch (P-2120)			

▲ : For SG model only, ■ : For SK model only, ● : For EK model only, Others: Common

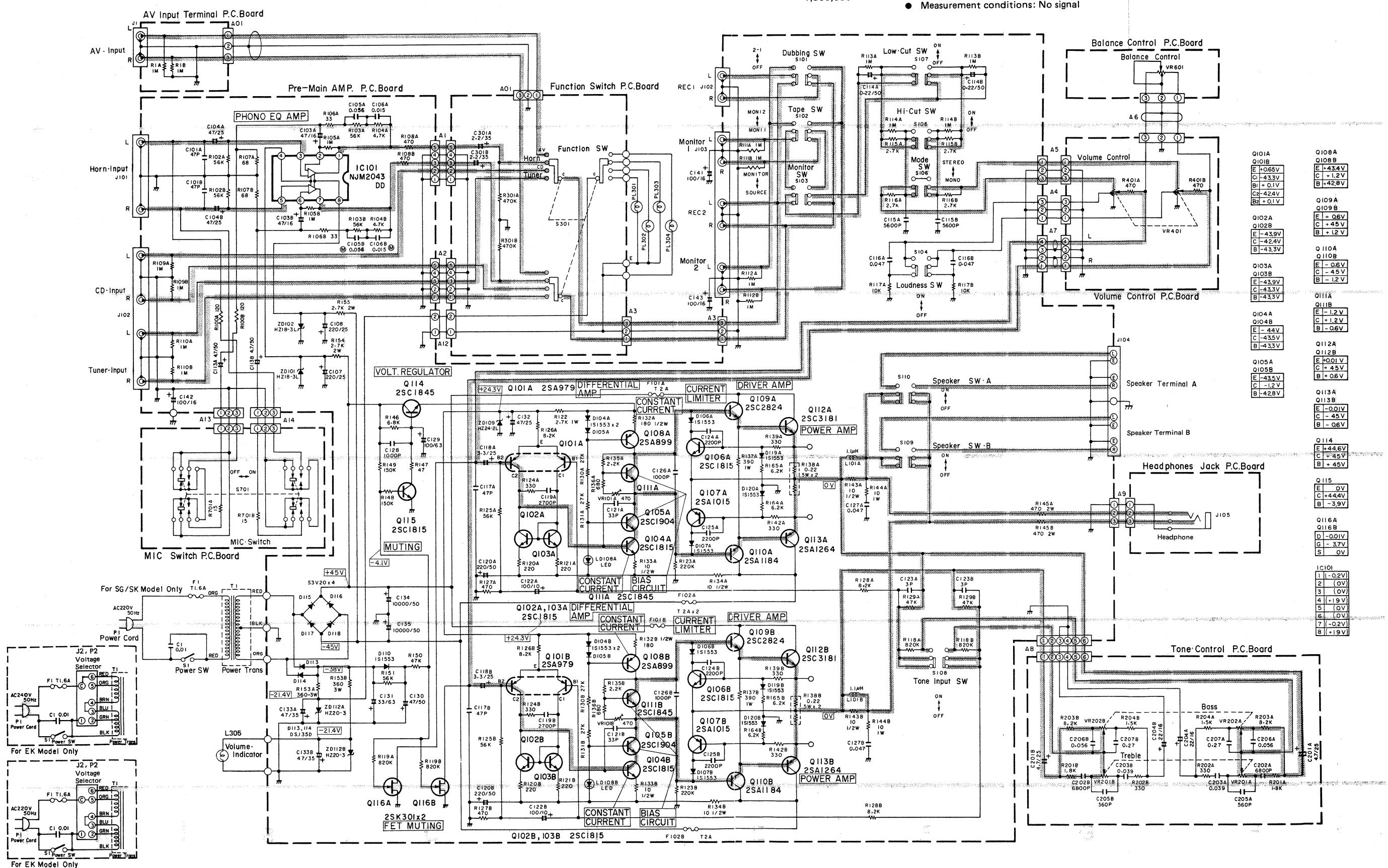
Schematic Diagram

NOTES:

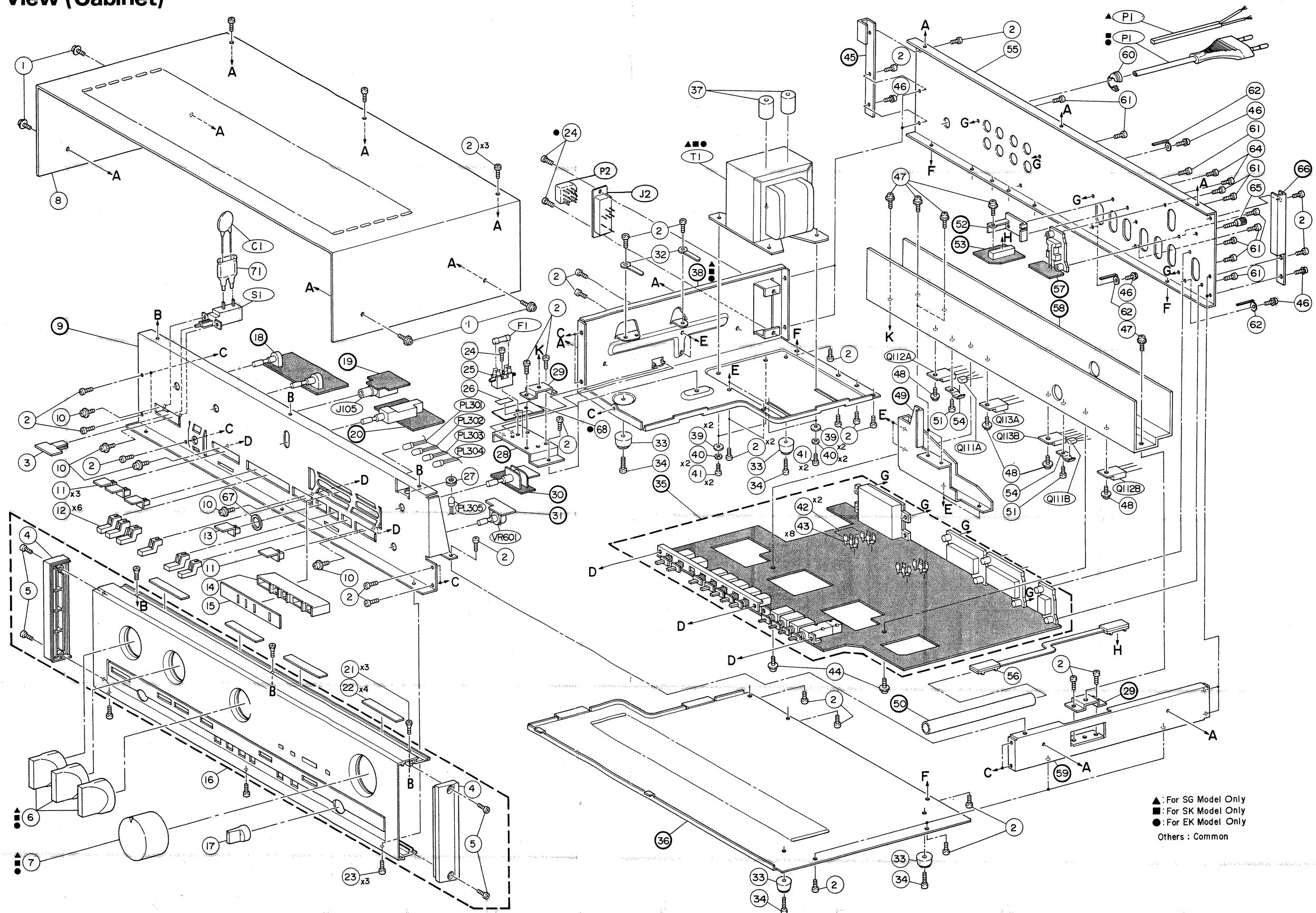
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

3. Power supply voltage: AC 220V (SK, SG Model)
AC 220V ~ 240V (EK Model)

- Measurement meter: Digital multi voltmeter
- Measurement reference: To ground
- Measurement conditions: No signal



Exploded View (Cabinet)



Cabinet Assembly Parts List

		Part No.	Description			Part No.	Description
1		03S40036U01	Screw, W/Washer (M4 x 8)	33		75A52969F01	Pad, Trann-leg
2		03S44205G02	Screw, Pan (M3 x 6)	34		03S44205G52	Screw, Pan (M4 x 14)
3	3-A	36A67060F01	Knob, Push (Power)	35	3-E	※	Ass'y, Pre-Main Amplifier
4		07B67066F01	Frame, Side Panel	36	5-E	※	P.C. Board
5		03S40012G93	Screw, Tapping (M3 x 8)	37	1-E	43A61729F02	Cover, Bottom
▲ 6	5-A	36B66511F04	Knob, Rotary VR (Tone Input Select)	▲ 38	2-E	※	Spacer, Rubber
■ 7		36B66511F03	Knob, Rotary VR (Tone Input Select)	■ 39		※	Bracket, Transformer
● 8		36B66511F03	Knob, Rotary VR (Tone Input Select)	● 40		※	Bracket, Transformer
▲ 9	6-A	36B66512F04	Knob, Rotary VR (Volume)	39		04S40070G40	Bracket, Transformer
■ 10		36B66512F03	Knob, Rotary VR (Volume)	40		04S40071G15	Washer, Flat (M4)
● 11		36B66513F03	Knob, Rotary VR (Volume)	41		03S44205G51	Washer, Spring Lock (M4)
8 12	2-A	15C67065F01	Cover, Top	42	3-F	54B67276F03	Screw, Pan (M4 x 8)
9 12	A	※	Chassis, Front	43	4-F	09T51410F01	Label, Fuse
10		03D40014G04	Screw, W/Washer (M3 x 6)	44	4-F	03S40018G02	Holder Fuse
11		36A67061F02	Knob, Push (A)	45	1-F	※	Screw, Tapping (M3 x 8)
12	4-A	36A67062F02	Knob, Push (B)	46		03S40036U18	Bracket, Rear (L)
13	4-B	36A67061F01	Knob, Push (Monitor)	47	2-F	03C42723U02	Screw, W/Washer (M3 x 8)
14	4-B	43A62016F02	Bushing, Lamp	48		03C40121T15	Screw, Cap (M3 x 8)
15	4-B	61A66858F01	Filter, Lamp	49	3-F	※	Screw, W/Washer (M3 x 12)
16	5-B	01V69400F22	Assembly, Front Panel	50	5-F	※	Bracket, Transformer
17	5-B	36B67059F01	Knob, Rotary VR (Balance)	51		03S40012G28	Tube, Vynil (170)
18	3-C	※	Assy., Tone Control	52	2-G	※	Screw, Tapping (M3 x 8)
19	3-C	※	P.C. Board	53	2-G	※	Bracket, P.C. Board
20	3-C	※	P.C., Headphone Jack	54		07R51146F01	Assy., Microphone Switch
21	4-C	03S44205G16	Assy., Function Switch	55	1-G	15C67058F02	P.C. Board
22	5-C	14S53018F42	P.C. Board	56	4-G	45T57373F01	Support, Transistor
23	6-C	03S40012G03	Screw, Countersink (M3 x 6)	57	2-G	※	Cover, Rear
24		03S44205G03	Fiber, Insulator	58	2-G	※	Wire, Flexible (SWR1198)
25	3-D	09T51074F01	Screw, Tapping (M3 x 6)	59	5-G	※	Assy., AV Input Terminal
26	3-D	54B62266F19	Screw, Pan (M3 x 8)	60	1-H	43B41625J02	P.C. Board
27	3-D	43A66824F01	Holder, Fuse	61		03S40012G41	Heat Sink
28	3-D	※	Label, Fuse (T1.6A)	62		29A737272	Bracket Side (R)
29		※	Bush, Lamp	63		64 1-H	Support, Cord
30	3-D	※	Bracket, Fuse	64	1-H	03D40014G49	Screw, Tapping (M3 x 8)
31	4-D	※	Bracket, Heat Sink	65	2-H	29T66964F01	Lug, Wrap Around
32	2-E	29C41045P01	Assy., Volume Control	66	2-I	※	Screw, W/Washer (M3 x 8)
			P.C. Board	67	3-B	04S40075G25	Terminal, Ground
			Panel, Balance Control	68	3-E	43A51453F01	Bracket, Rear (R)
			Lug, Wrap Around	69	2-C	43T53136F01	Washer Polyslider (M5.2)
				70			Spacer, Fuse
				71			Bush, Capacitor (TP150-301)

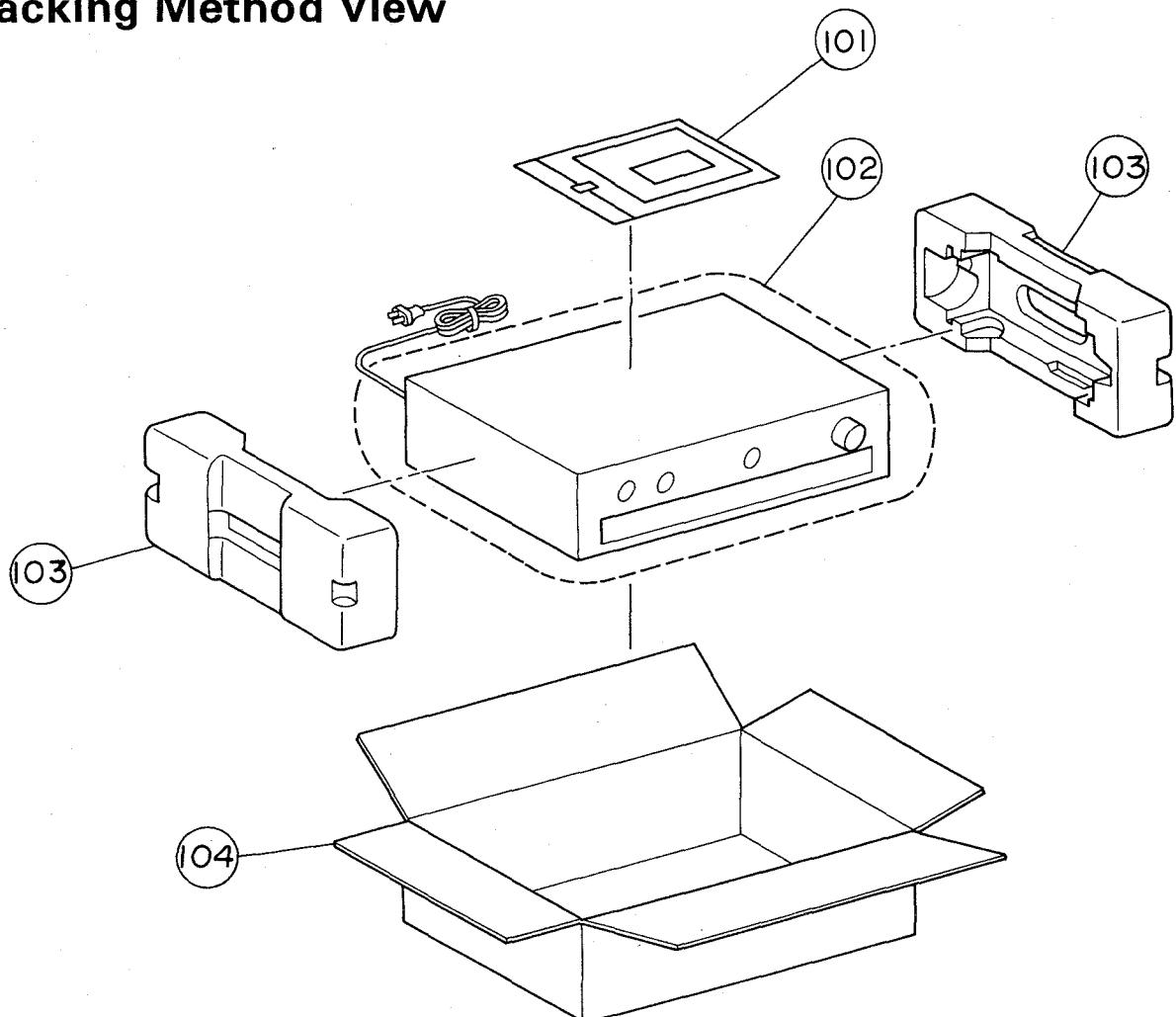
▲ : For SG model only, ■ : For SK model only, ● : For EK model only, Others: Common

Note: * The parts without part numbers are not supplied.

Parts List by Specific Countries

Symbol No.	Description	POWER SOURCE		
		SG▲ 240V	SK■ 220V	EK● 220V
		North America	West Germany	Australia
6	Knob, Rotary VR (B)	36B66511F04	36B66511F03	36B66511F03
7	Knob, Rotary VR (C)	36B66512F04	36B66512F03	36B66512F03
38	Assembly, Trans Chassis	01V73300F78	01V69400F19	01V71400F85
68	Spacer, Fuse	Not Used	Not Used	43A51453F01
J2	Socket, Switch	Not Used	Not Used	09T51831F01
P1	Plug, AC Cord	28T68132F01	28T43812P02	28T43812P02
P2	Plug, Switch	Not Used	Not Used	09T51830F01
T1	Trans, Power	25T72409F01	25T69175F01	25T71160F01
	Label, Serial No.	54B57610F10	54B57610F11	54B57610F11
	Label, Volt	54B44257U02	54B44257U01	54B44257U03

Packing Method View



Packing Assembly Parts List

Symbol No.	Part No.	Description
101	68P67499F52	Owner's Manual
102	56B63425F11	Sack, Polyethylene
103	56C67069F01	Tray, Packing
104	56S60482F76	Carton, Packing (Individual)

Symbol No.	Part No.	Description

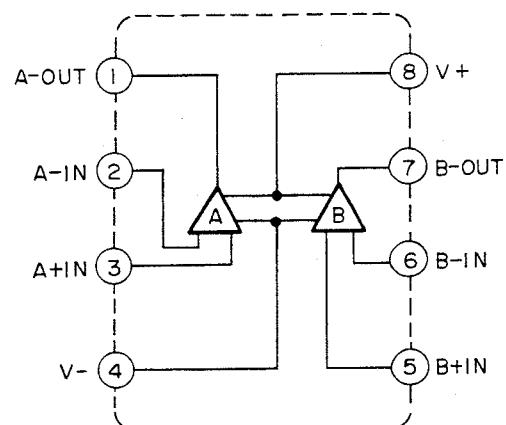
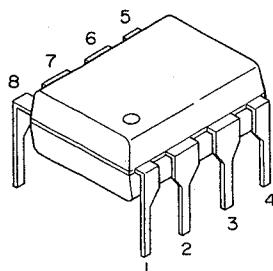
Labels

●	54B42124G08	Serial No. (Rear Cover, Indi. Carton)
●	54B42124G01	Date Code (Bottom Chassis)
▲	54B44257U03	Voltage (220V)
■	54B44257U02	Voltage (240V)
■	54B44257U01	Voltage (220V)

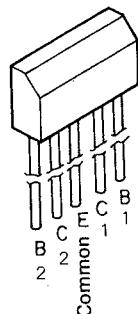
▲ : For SG model only, ■ : For SK model only, ● : For EK model only, Others: Common

Semi-Conductor Lead Identifications

NJM2043D-D: IC101



2SA979: Q101A, 101B



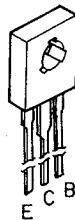
2SC1815: Q102A, 102B, 103A, 103B,
Q104A, 104B, 106A, 106B,
Q115

2SA1015: Q107A, 107B

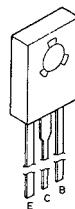
2SC1845: Q111A, 111B, 114



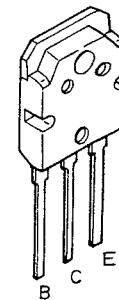
2SC1904: Q105A, 105B
2SA899: Q108A, 108B



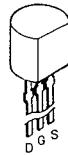
2SC2824: Q109A, 109B
2SA1184: Q110A, 110B



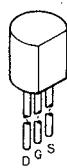
2SC3181: Q112A, 112B
2SA1264: Q113A, 113B



2SK117: Q116A, 116B



2SK301: Q116A, 116B



I C

TRANSISTOR (Q)

DIODE (ZD,L,D,D)

Q114 Q115 Q116A Q116B Q108A Q104A Q106A Q107A Q10C

ZD102 ZD101 D115~D118 Q102A Q103A Q101B Q108B Q105A Q105B Q104B

D110 ZD109 D104A D105A D108A D104B D105B D106A D107A

D110 D104B D108B D106B D107B

AV Input Terminal P.C. Board

Horn Input J10

CD Input R J102

Tuner Input L R J101

PHONO EQ AMP

C104A 47/25 C105A 0.056 C106A 0.015

R104A 47/16 R105A 56K R106A 4.7K

R107A 68 R108A 4.7K

ZD102 H218-3L C103B 47/16 R105B 1M

R103B 56K R104B 4.7K

R106B 33 C105B 0.056 C106B 0.015

IC101 NJM2043 DD

R108B 470 A1 2.2/3.5

C301A 2.2/3.5 C301B 470

R301A 470 K

R301B 470

A1 2.2/3.5

A2 2.2/3.5

Function SW

REC1 J102

REC2 J102

Monitor L J103

Monitor R J103

Function SW

REC1 J102

REC2 J102

Monitor L J103

Monitor R J103

Function SW

REC1 J102

REC2 J102

Monitor L J103

Monitor R J103

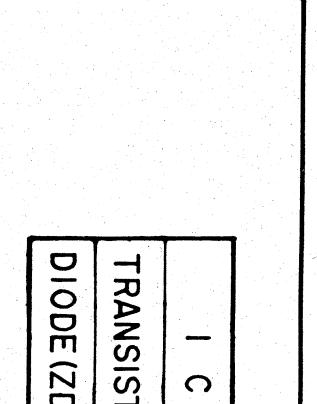
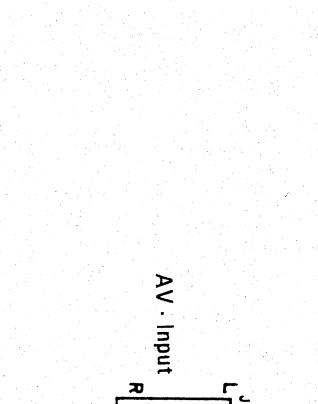
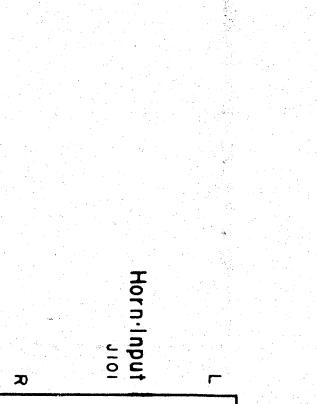
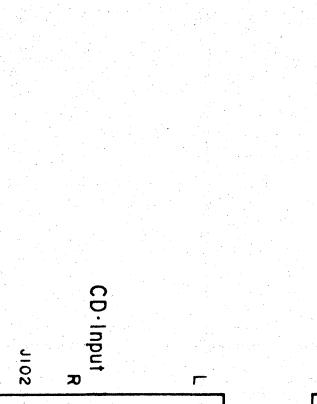
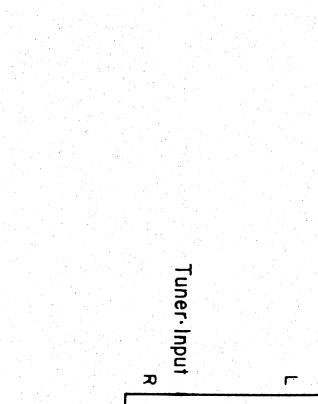
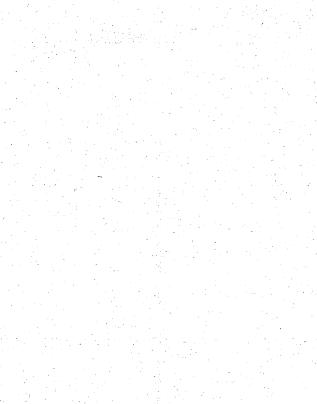
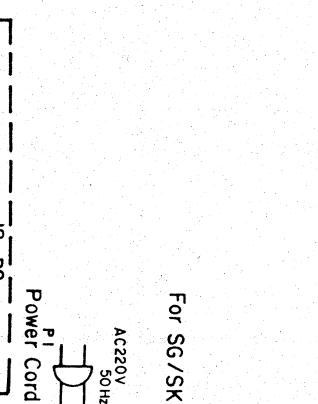
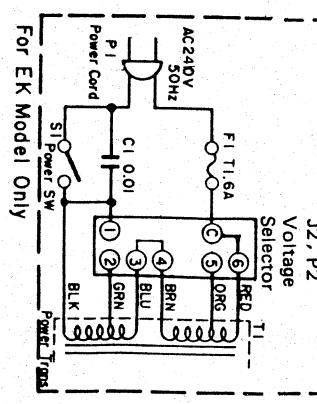
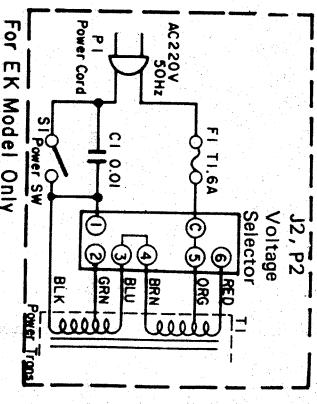
Function SW

REC1 J102

REC2 J102

Monitor L J103

Monitor R J103



Q106A Q109A Q112A
Q107A Q106B Q110A Q109B Q113A Q112B
Q107B Q110B Q111A Q110B Q113B Q113B

D107A D120A
D106B D107B D119B D120B

Q109A Q112A
Q110A Q109B Q113A Q112B
Q111A Q110B Q111B Q110B Q113B Q113B

D119A D120A
D119B D120B

NOTES:

- All resistance values are in ohms. $K = 1,000$
- All capacitance values are in microfarads. $P = 1,000,000$
- Power supply voltage: AC 220V (SK, SG Model)

● Measurement meter: Digital multi voltmeter

● Measurement conditions: No signal

